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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/970,929	10/05/2001	Jun Koyama	740756-2368	3139
31780	7590	11/01/2005		
ERIC ROBINSON PMB 955 21010 SOUTHBANK ST. POTOMAC FALLS, VA 20165			EXAMINER NELSON, ALECIA DIANE	
			ART UNIT	PAPER NUMBER
			2675	

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/970,929

Applicant(s)

KOYAMA ET AL.

Examiner

Alecia D. Nelson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18,37-54,73-90 and 109-126 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18,37-54,73-90 and 109-126 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ✓ 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ✓ 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3 statements.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statements (IDS) submitted on 10/5/01, 7/26/05, and 8/17/05 have been considered by the examiner.

Drawings

3. The drawings are objected to because: in Figures 2, 10A, 10B, and 17A, there is more than one figure represented by these figure identifiers. More specifically in Figure 2 there are five separate drawings, a different figure identifier should be used to represent each of these drawings. Similarly in Figures 10A, 10B, and 17A there are more than one figure represented by the figure identifier. Also the figures labeled "Unit 1", "Unit 2", and "Sup", in Figures 2, 10A, and 10B are too small to see the numerical identifiers clearly. These portions of the figures should be made larger.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

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number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the current source provided in the source signal line driving circuit for supplying a current to the level shifter must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet,

and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. **Claims 1-9 and 37-45**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Satoh et al. (U.S. Patent No. 6,724,363) in view of Marshall et al. (U.S. Patent No. 6,121,760).

With reference to **claims 1 and 37** Satoh et al. teaches a display device (51) comprising: a source signal line driving circuit (53) and a gate line driving circuit (54); a pixel portion (52); a shift register (53a, Figure 4) included in the source signal line driving circuit and in the gate line driving circuit (see Figure 2) for serially outputting pulses in accordance with clock signals (see column 5, lines 43-48); a level shifter (11, 12) included in the driving circuits for converting a voltage amplitude of input signals (see column 7, lines 2-5); and a current source (13, 14) provided in the source signal line driving circuit for supplying a current to the level shifter (see column 8, lines 46-54),

While not specifically teach that the current source supplies the current only when the shift register serially outputs the pulses, Satoh et al. does teach that the level shifters are controlled in a manner that would reduce power consumption (see column 5, lines 43-48; column 8, lines 60-67).

Marshall et al. teaches a power regulator wherein a shift register, having a plurality of stages, or units (see column 2, lines 9-15), operates with respect to clock pulses from a clock signal in which the clock signals are generated in association with the power control pulses. That is upon initiation of the power regulator a first clock signal is output to the shift register, the shift register output terminals are set to a first level and

the shift register will output a signal on successive occurrences of the second clocking signal (see column 5, line 16-column 6, line 15).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow the usage of the shift register with multiple stages wherein power is only provided when the shift register output pulses as taught by Marshall et al. in a device similar to that which is taught by Satoh et al. in order to thereby provide a display device in order to improve power regulation for reducing power consumption of the display.

With reference to **claims 2 and 38**, Satoh et al. teaches that the source and gate line driving circuits and the pixel portion are provided of a glass substrate (see column 4, lines 47-51).

With reference to **claims 3, 4, 39, and 40**, Satoh et al. teaches that the driving circuit is provided on the same substrate as the pixel portion (see column 4, lines 37-40). While not specifically teaching that the driving circuits and the pixels circuits are disposed on different substrates, the Examiner takes Official notice in that conventional display devices are well known to have this configuration.

With reference to **claims 5-9 and 41-45**, while not specifically teaching that the display device is a liquid crystal type display device, it would have been obvious to one having ordinary skill in the art at the time of the invention for the configuration showing

in Figure 2 to be a diagram of a liquid crystal type display device. Further, the examiner takes Official Notice in that it is well known in the art for display device, preferably LCD device to be incorporated into personal computers, portable information terminals, car audio sets, and digital cameras.

8. **Claims 10-18, 46-54, 73-90, and 118-126** are rejected under 35 U.S.C. 103(a) as being unpatentable over Satoh et al. (U.S. Patent No. 6,724,363) in view of Callahan et al. (U.S. Patent No. 5,574,475) and Marshall et al. (U.S. Patent No. 6,121,760).

With reference to **claims 10, 46, 73, 82, 109, and 118** Satoh et al. teaches a display device (51) comprising: a source signal line driving circuit (53) and a gate line driving circuit (54); a pixel portion (52); a shift register (53a, Figure 4) included in the source signal line driving circuit and in the gate line driving circuit (see Figure 2) for serially outputting pulses in accordance with clock signals (see column 5, lines 43-48); a level shifter (11, 12) included in the driving circuits for converting a voltage amplitude of input signals (see column 7, lines 2-5); and a current source (13, 14) provided in the source signal line driving circuit for supplying a current to the level shifter (see column 8, lines 46-54),

While teaching the usage of a source line and gate line driving circuits there fails to be any disclosure of a first to x-th unit included in the driving circuits, as recited in **claims 10, 46, 82, and 118**, or the usage of a decoder, as recited in **claims 73, 82, 109, and 118**. Also, while not specifically teach that the current source supplies the current

only when the shift register serially outputs the pulses, Satoh et al. does teach that the level shifters are controlled in a manner that would reduce power consumption (see column 5, lines 43-48; column 8, lines 60-67).

Callahan et al. teaches a source signal line driving circuit (14) composed of signal drivers 1-11 and a gate line driver (16) composed of a plurality of gate drivers (see Figure 2). There is also taught the usage of a decoder (30) included in the source signal line driving circuit for outputting pulses in accordance with input signals (see column 5, lines 39-50).

Marshall et al. teaches a power regulator wherein a shift register, having a plurality of stages, or units (see column 2, lines 9-15), operates with respect to clock pulses from a clock signal in which the clock signals are generated in association with the power control pulses. That is upon initiation of the power regulator a first clock signal is output to the shift register, the shift register output terminals are set to a first level and the shift register will output a signal on successive occurrences of the second clocking signal (see column 5, line 16-column 6, line 15).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow the usage of a source and gate line driving circuit having a plurality of units and a decoder similar to that which is taught by Callahan et al. to be used in a display device similar to that which is taught by Satoh et al. wherein the current source only supplies current when the shift register is outputting pulses similar to that which is taught by Marshall et al. in order to thereby provide a display device

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which is capable of generating high quality images for a large display device without consuming a excess of power.

With reference to **claims 11, 47, 74, 83, 110, and 119**, Satoh et al. teaches that the source and gate line driving circuits and the pixel portion are provided of a glass substrate (see column 4, lines 47-51).

With reference to **claims 12, 13, 48, 49, 75, 76, 84, 85, 111, 112, 120, and 121**, Satoh et al. teaches that the driving circuit is provided on the same substrate as the pixel portion (see column 4, lines 37-40). While not specifically teaching that the driving circuits and the pixels circuits are disposed on different substrates, the Examiner takes Official notice in that conventional display devices are well known to have this configuration.

With reference to **claims 14-18, 50-54, 77-81, 86-90, 113-117, and 122-126**, while Satoh et al. fails to specifically teach that the display device is a liquid crystal type display device, it would have been obvious to one having ordinary skill in the art at the time of the invention for the configuration showing in Figure 2 to be a diagram of a liquid crystal type display device. Further, the examiner takes Official Notice in that it is well known in the art for display device, preferably LCD device to be incorporated into personal computers, portable information terminals, car audio sets, and digital cameras.

Response to Arguments

9. Applicant's arguments with respect to **claims 1-18, 37-54, 73-90, and 109-126** have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alecia D. Nelson whose telephone number is 571-272-7771. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on 571-272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

adn/ADN
October 11, 2005



SUMATI LEFKOWITZ
SUPERVISORY PATENT EXAMINER